

AMENDMENTS TO THE CLAIMS

1. (Currently Assigned) An acid liquid leakage sensor comprising:
a first conductive member₁;
a second conductive member₂; and
an electrically insulating material which establishes an electrically insulating state between said first conductive member and said second conductive member₁ and₂, wherein said electrically insulating material includes a macromolecular compound having a basic functional group, and ~~is one whose~~ has an electrical insulation characteristic that decreases upon reaction with an acid liquid.

2. (Currently Amended) The acid liquid leakage sensor of Claim 1, wherein said macromolecular compound has a glass transition temperature, T_g, of at least 40°C ~~or higher~~.

3. (Currently Amended) The acid liquid leakage sensor of Claim 1 ~~or Claim 2~~, wherein said macromolecular compound is obtained by radical polymerization of a monomer component having a basic functional group, and a monomer component which is capable of copolymerization with said monomer component.

4. (Currently Amended) The acid liquid leakage sensor of Claim 3, wherein said monomer component having a basic functional group includes at least 10% ~~or more~~ of all of the radical polymerized monomers which make up said macromolecular compound.

5. (Currently Amended) The acid liquid leakage sensor of ~~any one of Claims~~ Claim 1 ~~through 4~~, wherein said electrically insulating material includes at least 10% ~~or more~~ of an extender.

6. (Original) The acid liquid leakage sensor of Claim 5, wherein said extender includes a metallic carbonate.

7. (Currently Amended) The acid liquid leakage sensor of ~~any one of Claims~~ Claim 1 ~~through 6~~, wherein:

said second conductive member is made from a substance ~~whose~~ having an ionization tendency is of a value different from the ionization tendency possessed by the substance from which said first conductive member is made₁, and

when the electrical insulation characteristic of said electrically insulating

material decreases, an electromotive force which is generated between said first conductive member and said second conductive member is detected.

8. (Currently Amended) The acid liquid leakage sensor of ~~any one of Claims~~ Claim 1 through 7, wherein

said first conductive member is a first comb shaped electrode which comprises a common electrode member and a plurality of fine electrode members which extend from ~~this~~ the common electrode member; and

said second conductive member is a second comb shaped electrode which comprises a common electrode member and a plurality of fine electrode members which extend from ~~this~~ the common electrode member and are disposed between said fine electrodes of said first comb shaped electrode.

9. (Currently Amended) The acid liquid leakage sensor of Claim 8, wherein said first comb shaped electrode and said second comb shaped electrode are spaced apart by a gap which is ~~greater than or equal to~~ at least 0.5 mm and ~~less than or equal to~~ no more than 8 mm.

10. (Currently Amended) The acid liquid leakage sensor of ~~any one of Claims~~ Claim 1 through 9, wherein said first and second conductive members are made from a printing material in which a metallic material selected from zinc, copper, iron, aluminum, tin, nickel, and magnesium, or a powder of said metallic material, is mixed with a resin which becomes a binder.

11. (Currently Amended) The acid liquid leakage sensor of ~~any one of Claims~~ Claim 1 through 10, further comprising ~~a~~ notification means which operates by electrical conduction ~~or said electromotive force~~ between said first conductive member and said second conductive member.

12. (New) The acid liquid leakage sensor of Claim 2, wherein said macromolecular compound is obtained by radical polymerization of a monomer component having a basic functional group, and a monomer component which is capable of copolymerization with said monomer component.

13. (New) The acid liquid leakage sensor of Claim 12, wherein said monomer component having a basic functional group includes at least 10% of all of the radical polymerized monomers which make up said macromolecular compound.

14. (New) The acid leakage sensor of Claim 7, further comprising notification means which operates by the electromotive force between said first conductive member and said second conductive member.